



US Army Corps
of Engineers

Norfolk District

Former Nansemond Ordnance Depot

Formerly Used Defense Sites (FUDS) Program

Fact Sheet

February 2003

Impregnite Kit Area Fact Sheet

EPA Deems Soil Cleanup Complete at the Impregnite Kit Area

The U.S. Army Corps of Engineers has successfully completed the removal activities at the Impregnite Kit Area. This site was a former military disposal area for impregnite kits located on Dominion Lands property about 1,000 feet from the Nansemond River. It was discovered in 1995 when a Dominion Lands contractor uncovered remnants of the impregnite kits in a mound at the site, including: wooden crates containing white powder, small metal cans containing black waxy material, fiber drums, and a thick seam

of white powder. In 1999, EPA designated the Impregnite Kit Area for the Superfund/National Priorities List (NPL) along with five other sites at the Former Nansemond Ordnance Depot. EPA found several hazardous substances at the site prior to the Corps' removal efforts including: Carbon Tetrachloride, Chloroform, Zinc, and TNT. The affected area was approximately 270 feet in diameter covering approximately 57,255 square feet, a fraction of the original size estimated on the NPL.



What's Been Done?

What actions have been taken at this site?

In December 1998 and January 1999, a U.S. Army Corps of Engineers contractor removed approximately 857 tons of the buried kits and surrounding contaminated soil. This material was disposed of at the Bethel Subtitle D landfill located in Hampton, Virginia. An EPA Region III representative oversaw all removal operations. The Corps directed their contractor to excavate to the water table to ensure that all impregnite kit materials and associated soils were removed. Confirmation sampling indicated that the kits and associated soil were successfully removed.

In June 1999, a geophysical investigation was also conducted on approximately 20 acres around the site to confirm that no other disposal areas were present. Sixteen anomalies were identified and flagged for additional investigation.

The Corps hired a contractor to conduct a subsurface investigation to evaluate the sixteen anomalies. All but one of these anomalies turned out to be the result of rebar, wire, pipes, and non-ordnance related metal objects.

On August 2002, an Army Corps contractor investigated the last anomaly in the Impregnite Kit Area. During that investigation, 10 pounds of non-ordnance related scrap, and one empty 20mm projectile were found.

What kind of sampling has been done there?

Beginning in July 1999, 17 soil samples were taken from nine locations along the center of the affected area based on a 1958 aerial photograph. At each location, one surface sample and one subsurface sample were collected from a depth of 4 to 6 feet below the excavated trenches.

Some samples were taken at depths of 9 to 11 feet below the ground surface. Based on the results of the confirmation sampling, soil in the Impregnite Kit Area is no longer considered to be a threat to human health or the environment.

Groundwater beneath the Impregnite Kit Area has been sampled and analyzed. While these efforts to date have indicated no groundwater concerns, the EPA and the Corps are proceeding with ongoing sitewide groundwater investigations to determine whether the groundwater beneath the entire site, including the Impregnite Kit Area, poses a risk to

human health or the environment. Dominion Lands has agreed to prohibit drinking of groundwater beneath the Impregnite Kit Area through a restrictive covenant, or similar legal device, in their deed. In addition, a City of Suffolk ordinance will require new buildings or dwellings in this area to connect to the city's water main. This will reduce the likelihood of groundwater beneath this site from being used in the future.



Removal Activities



Buried material that was removed

What's Next?

With the exception of groundwater analysis, no further action is recommended for the Impregnite Kit Area. The Impregnite Kit Area is expected to be the first site at the Former Nansemond Ordnance Depot to be delisted from EPA's National Priorities List.

The Delisting Process

In September 2002, EPA stated that they would proceed to delist this portion of the site from the National Priorities List once EPA received a closeout report from the Corps. This decision was based on the fact that the Corps had completed the removal action at the Impregnite Kit Area prior to the actual NPL listing. The closeout report is based on the post-removal confirmatory sampling effort that was conducted at the site. The Corps submitted the closeout report to EPA in January 2003. EPA published the Notice of Intent to Delist in the *Federal Register* and the *Virginian-Pilot* newspaper on January 21, 2003.

Public Comment

The Notice of Intent to Delist is available for public review and comment for a period of 30 days beginning on January 21, 2003. Public Comments should be submitted to Mr. Robert Thomson, PE, Remedial Project Manager, U.S. EPA, Region III (3HS13), 1650 Arch Street, Philadelphia, Pennsylvania 19103-2029, E-mail: thomson.bob@epa.gov, Telephone: (215) 814-3357.

Upon completion of the thirty (30) day comment period, EPA will evaluate all comments received before issuing the final decision on the partial deletion. EPA will prepare a Responsiveness Summary for comments received to address any concerns. The Responsiveness Summary can be obtained from EPA Region III or reviewed at the following project information repositories:

- Tidewater Community College (Frederick Campus) Library, Information Desk, 7000 College Drive, Portsmouth, Virginia 23703, (757) 822-2130, Hours of Operation: Monday through Thursday 8:00 a.m. to 9:00 p.m., Friday 8:00 a.m. to 4:30 p.m. and Saturday 9:00 a.m. to 1:00 p.m.
- U.S. EPA Region III Library, 1650 Arch Street, Philadelphia, PA 19103-2029, (215) 814-5254, Hours of Operation: Monday through Friday 8:00 a.m.-5:00 p.m.
- Former Nansemond Ordnance Depot Project Web site at <http://www.nao.usace.army.mil/Projects/Nansemond/welcome.html>

If EPA determines that the partial deletion of the site from the NPL is appropriate, EPA will publish a final notice in the *Federal Register*. Deletion of the area from the National Priorities List does not actually occur until the final notice is published in the *Federal Register*.

Glossary of Terms

Impregnite Kit

Impregnite kits were issued to soldiers in World War II to make the undergarments of military issue chemical suits impermeable to chemical agents. These kits contained two substances: a) XXCC3, which is a fine, white granular crystal powder, and b) a black waxy material or honey-like syrup.



Impregnite Kit

XXCC3

Fine white granular crystal powder consisting of Zinc Oxide and Octachlor Carbonilide with a strong bleach-like, Chlorine Odor. XXCC3 can be an eye, nose and throat irritant. It is relatively non-toxic. According to the Material Safety Data Sheet for the substance, it would take massive doses to be toxic. XXCC3 is not listed by the International Agency for Research on Cancer (IARC), National Toxicology Program (NTP), Occupational Safety and Health Administration (OSHA), or American Conference of Governmental Industrial Hygienists (ACGIH) as a carcinogen.



XXCC3 Powder

Contact Information

For more information about the Former Nansemond Ordnance Depot project please contact the following people:

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Project Web Site

<http://www.nao.usace.army.mil/Projects/Nansemond/welcome.html>

Information Repository

Information about the Former Nansemond Ordnance Depot project is available for public review at the Tidewater Community College Library

7000 College Drive Portsmouth, VA
Library Hours: 8 a.m. to 9 p.m. Monday through Thursday
and 8 a.m. to 4 p.m. on Friday